Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A welding system including:

a wire feeding unit which feeds a welding wire to a welding torch;

an actuator which holds the welding torch and moves the welding torch;

a controller which has a position control system and drive-controls the actuator; and

a welding power supply unit which applies weld output between a workpiece and the welding wire, wherein the welding torch is moved by the actuator in a direction separating from the workpiece thereby to control the velocity of the welding wire for the workpiece; and

the controller includes, separately from the position control system, a dedicated separation control system which moves the actuator only in the direction where the welding torch is separated from the workpiece; and

the dedicated separation control system is always connected to the position control system, and the controller outputs a velocity command relating to a welding torch pull-up operation

to the dedicated separation control system only when the welding torch is moved in the direction separating from the workpiece.

Claim 2 (Currently amended): The welding system according to claim 1, wherein the dedicated separation control system performs feedforward control.

Claim 3 (Cancelled)

Claim 4 (Previously presented): A method of preventing erroneous collision detection within a multi-articulated robot driven through a reduction gear by a motor utilizing the welding system according to claim 1, comprising the steps of:

    sensor-less detecting external force due to collision by subtracting a kinetic torque obtained by an inverse kinetic calculation of a robot from a torque outputted to the reduction gear by the motor;

    judging that an arm has received the external force in case that the detected value of the external force is greater than a predetermined threshold; and

    increasing the threshold for detection of collision to lower collision detecting sensibility in case that a command acceleration of the robot operation is greater than a predetermined value.

Claim 5 (Original): The welding system according to claim 4,

wherein the threshold for detection of collision is increased,

and this state where the threshold is increased is kept for the

predetermined time in case that the command acceleration of the

robot operation is greater than the predetermined value.

Claim 6 (Currently amended): A consumable electrode type welding

method, which, by means of a welding system including a wire

feeding unit which supplies a welding wire to a welding torch,

an actuator which holds the welding torch and moves the welding

torch, a controller which has a position control system and

drive-controls the actuator, and a welding power supply unit

which applies weld output between a workpiece and the welding

wire, moves the welding torch by the actuator in a direction

separating from the workpiece, thereby to control the velocity

of the welding wire for the workpiece, in that the controller

includes, separately from the position control system, a

dedicated separation control system for moving the actuator only

in the direction where the welding torch is separated from the

workpiece; and

    the dedicated separation control system is always connected

to the position control system, and a velocity command relating

to a welding torch pull-up operation is outputted to the

dedicated separation control system only when the welding torch

is moved in the direction separating from the workpiece.

Claim 7 (Currently amended): The consumable electrode type

welding method according to claim 6, wherein the dedicated

separation control system performs feedforward control.

Claim 8 (Cancelled)

Claim 9 (Previously presented): The consumable electrode type

welding method according to claim 6, wherein a multi-articulated

robot, which is driven through a reduction gear by a motor, is

used to prevent erroneous collision detection, the method

comprising the steps of:

     sensorless detecting external force due to collision by

subtracting a kinetic torque obtained by an inverse kinetic

calculation of a robot from a torque outputted to the reduction

gear by the motor; judging that an arm has received the external

force in case that the detected value of the external force is

greater than a predetermined threshold; and

     increasing the threshold for detection of collision to

lower collision detecting sensibility in case that a command

acceleration of the robot operation is greater than a

predetermined value.

Claim 10 (Previously presented): The consumable electrode

welding method according to claim 6, in case that the command

acceleration of the robot operation is greater than the

predetermined value, the threshold for detection of collision is

increased, and this state where the threshold is increased is

kept for the predetermined time.

Claim 11 (Previously presented): The welding system according

to claim 1, wherein the welding torch is moved by the actuator

in the direction separating from the workpiece while the welding

is fed toward the workpiece.

Claim 12 (Previously presented): The welding system according

to claim 1, wherein the controller continues to output the

velocity command relating to the welding torch pull-up operation

to the dedicated separation control system until the welding

torch is moved in a predetermined height after the welding wire

contacts the workpiece.

Claim 13 (Previously presented): The welding system according to

claim 1, wherein the velocity command relating to the welding

torch pull-up operation outputted to the dedicated separation

control system is separate from a velocity command in a usual

operation outputted to the position control system.

Claim 14 (Previously presented): The consumable electrode

welding method according to claim 6, wherein the welding torch

is moved by the actuator in the direction separating from the

workpiece while the welding is fed toward the workpiece.

Claim 15 (Previously presented): The consumable electrode

welding method according to claim 6, wherein the velocity

command relating to the welding torch pull-up operation

continues to be outputted to the dedicated separation control

system until the welding torch is moved in a predetermined

height after the welding wire contacts the workpiece.

Claim 16 (Previously presented): The consumable electrode

welding method according to claim 6, wherein the velocity

command relating to the welding torch pull-up operation

outputted to the dedicated separation control system is separate

from a velocity command in a usual operation outputted to the

position control system.